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THE FREQUENCY OF STONE IN THE BLADDER IN FINLAND.[1]

BY J. A. ESTLANDER, M. D.,
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To facilitate the explanation of the peculiar conditions attending stone in the bladder which exist in my native country, I will divide all cases of this disease, with regard to the ætiology, into two groups, the first including those cases in which there is no disorder in the urinary organs and the stone seems to be of constitutional origin, and the second those in which the calculi clearly depend on a local disorder. When cases of stone belonging to the first group are frequent in a country, and, on the contrary, are very rare or altogether missing in another country, then the endemic causes are clearly perceptible. But when the calculi originate in diseases of the kidneys, or are due to the many causes which prevent the bladder from completely emptying its contents, as, for instance, paresia vesicæ, or obstruction of any kind in the urethra, then the question arises, In what relation do these cases stand to the general endemic causes? Are they absolutely independent of them or not? For my part I am inclined to answer this question to a certain extent in the negative. It is true that the rich or so-called upper classes all over the world live pretty nearly in the same manner, and that they are, by this very manner of living, on the one hand more exposed to calculi, and on the other more independent of the endemic causes, than the lower classes. But nevertheless as the influence of climate, water, temperature, etc., is never completely to be avoided, they must, at least to a certain degree, be subject to the same epidemic laws as the other classes of the population. If I then suppose a country where no epidemic causes of stone in the bladder exist, we should there, as a general rule, entirely miss all the cases of constitutional origin, and find the cases of local origin principally amongst the upper classes, and less often than elsewhere. Well, this is just the case with Finland.

Some statistical figures collected from the case-books of the surgical clinic at the University of Finland for the last forty-four years will show the truth of this assertion with respect to the first group of calculi.

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[1] Read before the International Medical Congress at Philadelphia.

During this period of nearly half a century only one case has presented itself, namely, that of a farmer, forty-one years old, whom I operated upon in 1863 for phosphatic stone in the bladder. This fact is the more remarkable as several such operations have been made in the clinic, but the patients have always been Russians, particularly from the province Jaroslaw. As Finland, with a population on December 31, 1875, of 1,829,919, has a surface of 6783 Swedish square miles (including Lapland), and the means of communication between the different parts of the country up to the last ten years have been undeveloped, it might be supposed that cases of stone had occurred in any of the eight provinces into which the country is divided without presenting themselves at the surgical clinic of the university, although it is the only special hospital in the land. To gain a decided conviction that this circumstance has not had any influence, I have communicated by letter with the surgeons superintending the hospitals erected by the government in each of these provinces, and they all returned the same answer, that for the last ten or fifteen years, during which they have been attached to these hospitals, they have never seen a case of stone in the bladder.

Cases belonging to the second group of calculi have been exceedingly rare amongst that part of the population which frequents the hospitals, and have been principally limited to stones depending on paresia vesicæ; not one single case of calculus renalis is recorded in the case-book of the surgical clinic. In my private practice I have had occasion to treat a great many cases of this kind, but all have been from the richer classes. Renal calculi have not been common, but not exceedingly rare, and amongst cases of vesical calculi, most of them depending on hypertrophy of the prostate, about twelve may have been my countrymen. I have no precise data for making a comparative estimate of this frequency, but it seems to me that the number is remarkably small to have occurred in a practice of seventeen years, during which time I have been the only *ex-professo* operating surgeon in the country.

From the facts I have just stated I think I am justified in concluding that stone in the bladder occurs in Finland almost exclusively in the upper classes, and originates most frequently in disorders of the urinary organs. It seems as if the causes of so pronounced an immunity for a whole country ought to be easy to discover, but such is not the case. Here as elsewhere, when we have to do with the ætiology of diseases, the facts we observe most probably are the result of many coöperating circumstances. As it would, however, be out of time and place to try to show here all that could possibly contribute to this immunity, I will only point out a few of the causes which seem to me the most important in this respect.

The water has always been considered as one of the principal causes, and I think that here it should have the first place. The land in Finland consists principally of granite mountains, ground even during the glacial period, with extensive sand-heaths and barren lands, and this ground has the vegetation of many thousand years covered with a scanty crust of earth. The water in springs, rivers, and lakes contains therefore only a small quantity of alkaline salts. I will, as an instance, cite the following analysis by Prof. J. Chydenius of the water of the Wanda River, which supplies the water-works of Helsingfors.

One hundred thousand grammes contained seven grammes of solid matter, namely: —

Chloride of sodium	0.63 gramme.
Carbonate of lime	1.88 "
Carbonate of magnesium	0.81 "
Silicic acid	0.48 "
Organic humus-like substance	2.55 grammes.

The water in Finland is thus remarkably pure, and as the water forms the principal part of the nurture of a nation, we may consider this quality of the water as the chief cause of the immunity from stone in the bladder which my country enjoys.

The food of the Finnish people generally consists of cereals, fish, potatoes, milk, which is nearly always sour, and very seldom meat; in fact, I do not think that there is any other people who consume so much lactic acid and so little flesh. Another peculiarity worth mentioning is the habit of taking a bath in a room filled with hot steam. This habit seems to be as old as the Finnish people itself, and is so common that the poorest farmer never would neglect to take his bath once a week all the year round. It would, perhaps, not be difficult to find out some relation between flesh as food and the uric acid which forms the greater part of the calculi of constitutional origin, or to show a certain connection between the functions of the skin and the functions of the kidneys, but I prefer simply to point out the most striking features in the manner of living of the Finnish people, hoping that a comparison with other people enjoying the same immunity will show, better than any hypothesis, whether the national mode of life exercises any influence in this respect or not.

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AN ABSTRACT OF PROFESSOR ESTLANDER'S REMARKS ON DR. J. J. WOODWARD'S PAPER ON TYPHO-MALARIAL FEVER.[1]

Professor Estlander stated that at certain periods the malarial fever was very common in Finland, particularly on the southern coast, and that at other periods it disappeared altogether. During the last years of the decade from 1850 to 1860 it raged there with great intensity, but from 1862 to 1868 it disappeared so completely that not one single case was to be met with at the hospitals. From the last-named year until the present time it has again attacked that part of the country very severely, but it seems now to be fast decreasing. As to the endemic causes of this periodicity, the professor said he should regard them as in some relation to the atmospheric pressure, for when during the short summer the average stand of the barometer is high, the stand of the water is low, and the bottom of the sea is uncovered in the numberless small creeks and bays in the Gulf of Finland. No tide is perceptible there, and the bottom lies exposed in the sunshine, forming a rich source for miasmatic exhalations. When, on the contrary, the average stand of the barometer is low, all is covered with water, and the summer is rainy and cold, but free from this fever.

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[1] Read at the International Medical Congress.

The abdominal form of typhoid fever may be called endemic in Finland, for cases of that fever occur every year, and at every part of the year, although sometimes with less, sometimes with more, intensity and frequency.

At periods when the malarial fever is very intense, cases are often seen exactly like those described by Dr. Woodward. These cases occur mostly in spring and autumn, and particularly in the month of August, which in that country of short summers is considered as a part of autumn. For this reason this fever commonly is called "Augustifeber." Professor Estlander added that the reporter has named this form of fever typho-malarial to designate it as a hybrid of the typhoid and the malarial, and that he was glad to accept this name and its signification. It is a well-known fact that during a period when the malarial tendency is predominant many diseases combine with this fever in a curious way, as, for instance, diarrhœa and bronchitis, particularly in children; and therefore such an association of these separate infections as the name typho-malarial implies has many analogies in pathology.

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VAGINAL OVARIOTOMY.[1]

BY CLIFTON E. WING, M. D.

On February 10, 1876, I saw with Dr. Spalding, of Lowell (the physician of the patient), and my partner, Dr. Warner, a lady whose history was as follows: She was thirty-two years old, unmarried, and was never very strong. The menses began at fourteen, were always regular, but accompanied by considerable pain. Twelve years ago, at the age of twenty, after lifting a heavy weight she began to suffer pains in the back and across the lower part of the abdomen, which became much worse during the monthly period and had so increased that for the last six years the patient had been obliged to resort to the use of morphine, and, at times, to etherization, when unwell. Five years ago a local examination showed a retroverted uterus, for which pessaries were tried without much result, and a year later a body was felt in Douglas's cul-de-sac, which was thought at the time, by Dr. H. R. Storer, who saw the patient, to be an ovary. For two years the patient was confined to her room, and part of the time to her bed, by her sufferings, but for the last year or two she has been better, and able to go about a little. She is habitually constipated, and defæcation, even after the use of enemata, is very painful. Micturition frequent, appetite poor, no febrile symptoms, patient emaciated and in a miserable condition.

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[1] Read before the Suffolk District Medical Society, September 30, 1876.

An elastic but not distinctly fluctuating mass was felt in Douglas's cul-de-sac, pressing the uterus forward towards the pubes. The fundus uteri was turned somewhat backward, but was movable with the sound. The latter entered to the normal depth. With the patient under ether the tumor could not be pressed from its position, and previous efforts in the same direction had failed. Examination per rectum showed that the mass pressed the bowel against the sacrum, and explained the constipation and painful defæcation.

An aspirator needle was passed into the mass from the vagina, but only a small amount of dark, bloody fluid was withdrawn. Dr. E. G. Cutler kindly examined this and reported as follows: "The fluid (about two drachms in quantity) contained a large percentage of albumen. Under the microscope many red blood corpuscles were seen which had lost their characteristic shape and had become irregularly crenated. The surfaces of many showed a few spots not unlike small globules of fat[?]. In addition were seen numerous granular cells in various stages of fatty degeneration, varying in size from that of a white corpuscle to double that size. Hæmatin crystals; no others. Diagnosis of fluid, old hæmorrhagic effusion."

The tapping was not followed by any symptoms.

March 30th. The tumor remaining the same, the aspirator was again used, and this time several ounces of the same fluid were removed, and the mass much diminished in size. This second tapping was not followed by improvement; on the contrary, some time afterwards the patient began having occasional slight chills followed by fever, nausea, and headaches; in fact, a mild septicæmia. She continued to lose strength and appetite, though not confined to bed.

When next seen, April 19th, an examination showed the mass behind the uterus to be as large as ever, and more tense and cyst-like. Upon passing an exploring needle from the vagina, as before, a few drops of exceedingly offensive matter escaped. It was evident that the fluid must be thoroughly evacuated, whether it came from an old hæmatocele or from a hæmorrhagic ovarian cyst, one of which seemed to be present.

With the aid of Sims's speculum and position, the parts being well drawn down towards the vulva with tenacula, and care being taken to avoid wounding the rectum, an opening was made through the upper part of the vagina and the peritoneum into Douglas's cul-de-sac. Passing my finger through this I distinctly made out a small ovarian cyst, about the size of an orange, fixed in the cul-de-sac by some loose adhesions which easily gave way before my finger. The opening having been enlarged, the cyst was seized with strong forceps, opened and evacuated, then twisted to diminish its size, and pulled through into the vagina. There was no proper pedicle, but the uterus, tipping backward, allowed the broad ligament with the Fallopian tube to come well into the vagina. I intended here to apply a ligature and cut away the cyst, but Dr. Warner, in making a digital examination, finding the attachments loose, attempted enucleation with his finger, succeeded in separating the tumor, and brought it away.

There was some bleeding, which soon ceased entirely, and as the uterus went forward the broad ligament slipped back into the abdominal cavity. No ligature whatever was used, but, a coil of small intestine appearing at the opening, I inserted three silk sutures and closed the wound sufficiently to prevent hernia, but left room to pass a catheter, should there be any collection to wash out. The patient was then put to bed.

April 20th. Patient came out of the ether well, had no shock, and passed a good night with the aid of morphine. Reports no more pain than after the previous tapping. No bleeding, some slight chills, no nausea. Taking mild nourishment. Occasional shooting pains in pelvic region. Pulse 116 and good.

April 21st. Pulse 114, temperature 100¾° in axilla. Some abdominal distention and pain, and considerable tenderness, but patient moves limbs without much increase of pain. Thirsty, no chills, but nurse reports sweating. Tongue coated, and brown at edges. No appetite, but takes her food. Washed out cul-de-sac, using double catheter and getting away an ounce of fœtid fluid.

April 22d. Pulse 96, temperature 99½°, respiration 18. "Feeling better." Washed out more fœtid fluid. Menses appeared to-day, one week early.

April 23d. Pulse 96, temperature 100¾°. Poor night, with pain in lower abdomen, but better to-day.

April 24th. Pulse 96, temperature 99½°. Patient reports herself nicely. In washing out cul-de-sac, which is done daily, some sloughy tissue came away to-day.

April 25th. Pulse and temperature normal.

April 29th. Bowels have been moved twice by enemata. Pure pus came from wound, which is granulating. Removed the sutures. Catheterization of the bladder, for a time necessary, now dispensed with. To have vaginal injections in place of the washing out with catheter.

May 6th. Touched granulations with caustic.

May 18th. Wound closed. Patient walking about the house, and dismissed.

Her rapid recovery was due in great measure to careful watching and faithful attendance on the part of Dr. Spalding after the operation.

I met the lady, for the first time since May, a day or two ago. She was no longer using morphine, and was increasing in weight and strength. The menses had been regular since the operation except within the last two months, when the flow had appeared every three weeks. This she attributed to the fact that, through illness in the family, the cares of the household had devolved upon her, and, as she expressed it, she had been obliged to be on her feet and running up and down stairs from morning until night. To the same cause she attributed a backache which she had had for a week or more, having been previously free from it.

Vaginal ovariotomy is an operation of recent date, having been first done by Thomas, of New York, who, February 6, 1870, removed a small ovarian tumor, tapping several cysts in so doing. The case was published in *The American Journal of the Medical Sciences*, April, 1870, and is quoted in full in Thomas's Diseases of Women, edition of 1875, where the author says of the operation,[1] "It is fully as easy of performance as abdominal ovariotomy, is evidently attended by much less danger, holds out to the patient the opportunity of avoiding many weary months of suspense in anticipation of that more grave procedure, is equally applicable to multilocular and to unilocular cysts, gives abundant facility for securing the pedicle, and is, so far as my knowledge and experience go, defensible as a surgical procedure against all but theoretical objections." "It is not my belief that the scope of this plan of performing ovariotomy will ever be very great, but I think in cysts of small size, which are unattached, it will offer a valuable resource for the avoidance of years of mental suffering while the disease is progressing, and of the capital operation of abdominal ovariotomy in the end, with all its attendant dangers and uncertainties. Even in a doubtful case, vaginal ovariotomy may be resorted to as a tentative measure, which, in the event of failure from the attachment of the cyst, would in all probability be recovered from."[2]

Dr. Peaslee, who was present at the operation by Thomas, did not form so favorable an opinion, and in his treatise on Ovarian Tumors writes as follows: "Upon purely surgical grounds, vaginal ovariotomy is, I think, hardly defensible, since—

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[1] Page 738.

[2] Page 735.

"(1.) It is practicable only in case of a very small cyst and while it gives no special inconvenience to justify interference in any way.

"(2.) It is more difficult than the ordinary operation of ovariotomy.

"(3.) It is performed before the cyst has acquired a distinct pedicle, and therefore the ligature cannot be applied with precision. If there be two or three cysts in the mass, especially if the case is one of polycyst, one or more of them will probably be left intact to undergo subsequent development, and it is impossible to determine beforehand that a given tumor is a monocyst.

"(4.) The operation is certainly not less dangerous than ovariotomy performed in the usual way while the tumor is small and without adhesion. I think it decidedly more so."[1]

Gilmore, of Mobile, operated successfully September 6, 1873, reporting the case in the New Orleans *Medical and Surgical Journal* of November, 1873. The tumor was of the size of an orange. He thinks Peaslee does injustice to the operation, and considers the vaginal operation safer than the abdominal, for the reason that the vaginal incision is made through tissues highly vitalized, which heal more readily than the abdominal incision; that it avoids fat and tendons, and gives better drainage; and also that "every practical surgeon knows that the more remote an incision into the abdominal cavity is from the diaphragm, the less the danger from acute peritonitis." Indeed, he formed so favorable an opinion of the operation that he proposed in the future, in case of a suspected unilocular cyst low down, to lay open the vagina, tap the cyst, and, if possible, extract in this way, holding the abdominal incision in abeyance.

Battey, of Georgia, March 30, 1874, removed a small ovarian tumor by the vaginal operation, the patient recovering,[2] and had, up to October, 1875, operated in this way, in doing the so-called "normal ovariotomy," nine times upon eight patients.[3] His first operation of normal ovariotomy was done by the abdominal incision, which he has since abandoned for the vaginal. He has had two fatal cases.

Perhaps as striking a case as any yet reported is that of Davis, of Wilkesbarre, Penn., who, in 1872, successfully removed an ovarian cyst weighing nine pounds through the vagina. In rupturing adhesions, which were abundant, his hand was passed high up into the peritoneal cavity, the sac extending several inches above the umbilicus, and forming a tumor about the size of a pregnant uterus at the seventh month of utero-gestation.[4]

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[1] Page 321.

[2] Thomas, Diseases of Women, page 737.

[3] Battey's Operation. By Drs. Yandell and McClellan. American Practitioner, October, 1875.

[4] Transactions of the Pennsylvania Medical Society, referred to by Thomas in American Journal of Medical Sciences, July, 1876.

This shows that a large cyst may, even if adherent, be removed in this way, yet it is doubtful if any one who has witnessed the difficulties often encountered in separating adhesions when the ovariotomist has the advantage of a large abdominal opening, and can plainly see what he is doing, would wish to attempt a repetition of the operation. It is evident that adhesions might be separated through the large abdominal incision which would prevent the completion of the operation through the vagina, and adhesions are often met with when least expected.

The question of the advisability of the vaginal operation for ovarian tumors would seem to be limited to the cases of very small ones, particularly such as have not risen out of the pelvis, but this is the stage in which, as a rule, as Dr. Peaslee remarks, "they give no special inconvenience to justify interference in any way." If the tumor causes symptoms by its pressure it can, unless adherent, as in our case, be pressed up out of the pelvis, and be kept there by a properly fitted supporter, and the patient can be made comfortable. The majority of patients know nothing of the presence of the tumor while it is in this stage, and escape "mental suffering while the disease is progressing" unless some officious attendant tells of the discovery he has made.

The vaginal operation then is done when the patient is slightly, if at all incommoded by the growth, appears to her friends in good health, and would perhaps remain comfortable for several years; while, on the contrary, abdominal ovariotomy is performed at a time when the patient feels its necessity, and is anxious for relief from her constantly increasing sufferings, with death the only result if the operation is not resorted to.

If the former operation were much less dangerous, as some think, we should be justified in urging it upon the patient even when she is in the enjoyment of fair health, but this is by no means established. The reported cases are too few in number to settle the question. In our case suppuration of the cyst and the attendant condition of blood-poisoning made operative measures imperative, and after the peritoneum was opened, before which a positive diagnosis of ovarian cyst was impossible, the simpler method seemed to be to remove the ovary through the opening made.

The vaginal operation is certainly not easier, and complications are likely to prove more troublesome than with the abdominal opening. I think Dr. Thomas himself will now be ready to concede this, since, in his second attempt at vaginal ovariotomy, made to remove a large and tender ovary, recently related at a medical meeting in New York, he failed to get into the peritoneal cavity, the rectum and the posterior wall of the uterus being glued together by lymph. In attempting to separate them he broke through into the rectum, and finally, giving up the vaginal operation and closing the rectal wound with sutures, he removed the ovary by the abdominal operation. In another attempt to open the peritoneum from the vagina, at which I was present, the operator, one of the most distinguished surgeons in the country, failed completely and was obliged to give up the attempt, although ascites was present, which theoretically should distend Douglas's cul-de-sac.

The trouble anticipated by Dr. Peaslee in regard to the pedicle does not seem to have been met with as yet. In our case there was no proper pedicle, yet the broad ligament was brought so far into the vagina that it could have been tied without great difficulty.

The fact that the intestine appeared at the vaginal cut is interesting, as lately some high authorities have held that the small intestine is never found in Douglas's cul-de-sac.

Vaginal ovariotomy has not been done as often for the removal of tumors as in the performance of " Battey's operation " or " normal ovariotomy," that is, " the removal of the ovaries," not necessarily diseased, " for the purpose of bringing about the change of life," as proposed by Dr. Battey in cases where this is deemed desirable. The same terms by common usage are applied to cases where the ovary is removed for neuralgia, etc., even when one only is taken away. It is a procedure the propriety of which is still " sub judice," and involving, as it does where both ovaries are removed, the unsexing of the woman, it will not be approved of by the profession generally unless it show unquestionable good results. In New York, where the operation has been done a number of times, the results, according to Dr. Mundé,[1] are not such as will probably lead to its abuse by repetition. It must be considered in the light of a capital operation. In one fourth of the cases of which I know, where the operation has been done, the patients have died, and recovery from the operation by no means implies that the patient was benefited. Among the reported cases a few brilliant results are to be found, and in some instances where death has resulted, after reading the histories of the patients the procedure seems justifiable, but in other cases the propriety of the operation may well be questioned. I do not believe Dr. Battey himself would have operated in all cases where his operation has been done.

In several instances where the ovary has been removed for the relief of pain referred to it, the patient has received no benefit at all, yet where both ovaries were removed she has been unsexed. One cannot but think it a serious matter to submit a patient to such an operation while our diagnoses and prognoses of the so-called " ovarian neuralgias " are as uncertain as at present. Everybody having experience in female diseases can call to mind cases where the ovary has been thought at fault until a correct diagnosis placed the trouble elsewhere. At best our knowledge is far from complete. To instance the looseness of views upon the subject, one gentleman in the report of a case of normal ovariotomy writes as follows: —

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[1] American Journal of Obstetrics, April, 1876.

"I do not believe that the removal of the ovaries could in any instance be resorted to with an expectation that the menstrual function would certainly be abolished, nor do I believe that normal ovariotomy would cure hysteria any more than ablation of the testicles would cure spermatorrhœa. . . . . Yet if I were dealing with an ulcer of the stomach or gastritis due to the menstrual molimen fixed in the solar plexus that could not be dislodged by remedies, and life were seriously jeopardized, I would entertain thoughts of normal ovariotomy."

It is to be hoped that this proposed method of treating gastric ulcers will not become popular.

In one case a surgeon removed both ovaries for what he was positive was "pure ovarian neuralgia." After the patient recovered from the operation she complained of the same pains, in fact declared them identical with those which she had had before. The gentleman now considered them "unquestionably hysterical," which might be termed a "diagnosis by *excision*."

Anxiety on the part of the specialist to perform great or rare operations whenever a possible chance offers is unfortunate, as nothing tends more to produce a feeling of distrust of the specialty itself among the members of the profession. "It must be conceded that to obviate by judicious treatment the necessity for an operation is more meritorious than to perform it well when required,"[1] and the fact that we are obliged in certain cases to resort to the removal of the ovaries to help our patients is, as pointedly remarked by one gentleman, rather a reproach to medicine.

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RECENT PROGRESS IN OPHTHALMOLOGY.

BY O. F. WADSWORTH, M. D.

Terminal-Corpuscles of the Conjunctiva. — Longworth[2] describes in detail the ending of nerve-fibres of the conjunctiva in terminal-corpuscles, which Krause first observed, and as to the existence of which there has been some controversy among histologists. He found the terminal-corpuscles in man nearly spherical, and was able to determine that the part within the sheath, the so-called inner corpuscle, is composed of closely-packed nucleated cells. In an appendix to Longworth's paper Waldeyer, who had previously denied the existence of the corpuscles, admits his error, and adds that he has succeeded in following the nerve fibrils within the corpuscle into immediate connection with the cells, and therefore these must be regarded as nervous.

[1] Allingham on the Diseases of the Rectum, Preface.

[2] Archiv für mikros. Anatomie, xi. 653.

Relation of Nerves to Corneal Corpuscles. — The varying accounts given by authors as to the method of termination of the nerves of the cornea led Koenigstein [1] to investigate the matter anew. To this end he macerated the cornea, previously colored with gold-chloride, for twenty-four hours in a solution of equal parts of hydrochloric acid and water with a little glycerine. By this means the basis substance of the cornea is broken up, and the corneal corpuscles and nerve fibres, intact even to their smallest ramifications, may be isolated and studied under the microscope. The coloring of the nerve fibres when thus prepared is still better than before maceration. Koenigstein was able to demonstrate in this way, in many instances, that very fine nerve fibres were in definite connection with the processes of corneal corpuscles, but could never observe that the nerve filament passed into the corpuscle itself.

The Length of the Emmetropic Eye. — The difference of refractive condition observed in the individual human eye, in a state of accommodative rest, is admitted in general to depend on variation in the length of the globe, not on differences of refractive power in the media or of curve in the refracting surfaces. Hirschberg [2] had the opportunity to measure the refraction of a blind glaucomatous eye with the ophthalmoscope, and a few weeks later to enucleate it for an inflammatory attack. The measurement of the enucleated eye gave a length of 23.75 millimetres, or from the anterior surface of the cornea to the bacillar layer of the retina about twenty-three millimetres. The refraction had been found during life emmetropic. This result would seem to show that the length of the optic axis in the schematic eye of Listing and Helmholtz, 22.23 millimetres, is somewhat too short. It may be noted also that Becker,[3] from objective examination of the originally emmetropic, aphakial eye, estimated its optic axis at 23.86 millimetres, and pointed out that, according to this estimate, the calculated focal distance of the crystalline in the living eye is considerably greater than that given by Helmholtz. A second eye, of which the refraction during life and the optic axis after enucleation were measured by Hirschberg, gave, however, allowance being made for the diminished length due to a low degree of hypermetropia, a more near accord with the length of the schematic eye than with the first eye referred to above or with the estimate of Becker. Evidently the question is not settled.

The Ciliary Processes during Accommodation. — A man in whom, besides other injuries, a mining explosion had caused the tearing out of the whole iris of the right eye through a wound in the cornea, gave Hjort [4] the opportunity to investigate the changes of form and position taking place in the ciliary processes during accommodation. The cor-

[1] Wien. acad. Sitzber., lxxi. 3.

[2] Centralblatt, page 40, 1876.

[3] Graefe und Saemisch's Handbuch, v. 436.

[4] Klin. Monatsblätter für Augenheilkunde, 1876, page 205.

nea, except for a laterally-situated cicatrix three millimetres in length, was clear; the interior of the eye, aside from the absence of the iris, appeared normal; vision was nearly perfect, and the range of accommodation but little less than in the uninjured and healthy eye. Repeated observations showed that, during accommodation for the near-point, the lens diameter was diminished, the ciliary processes moved forward and inward, while the distance between the processes and the edge of the lens remained the same. These changes were not instantaneous, but required an observable though short time for their accomplishment. Under the influence of calabar extract the changes were much more marked, and on forced accommodation even the bottom of the furrows between some of the processes could be seen. Especially distinct were the processes with focal illumination and the employment of Brücke's loupe. During complete paralysis of accommodation by atropine the processes were perhaps not quite so prominent, and the distance of the far-point was a little increased; the distance between the processes and the edge of the lens was unchanged.

These observations then agree entirely with the theory of the mechanism of accommodation advanced by Helmholtz. As to the behavior of the ciliary processes, they agree very nearly with the observations of Coccius, but are in direct contradiction to those of Becker, made on albinos. Becker, as is well known, found the ciliary processes to recede in accommodation for the near and under the influence of calabar paper, to advance under atropine or vision for distance. Unable to explain this disagreement with his own observations, Hjort also examined albinos, and the results he obtained agreed with his previous ones. Once only did it appear to him that on accommodation for the near the processes were drawn backward as Becker had stated, but it was soon evident that the recession was only apparent, and it was a slight movement of the eye which had caused the scleral border to hide more of the processes. The assertion of Coccius that during accommodation, although the ciliary processes approach the axis of the eye, the distance between them and the edge of the lens increases, was not verified; on the contrary, this distance always appeared the same, nor is it clear how such increase could take place without the assumption of a stretching of the zonula. That Graefe, in his oft-quoted case of aniridia, could perceive no change in the ciliary processes with accommodation may be explained perhaps by his not having used sufficient magnifying power, in part also by the non-use of calabar, which renders the change much more evident.

The Pulsation of the Retinal Vessels. — Jacobi[1] discusses the theories which have hitherto been offered in explanation of the pulsation in the vessels of the retina, and presents his own views. The question is of importance for the correct understanding of the internal circulation of the eye, and has as yet not been satisfactorily settled. The pulse in the veins, both on account of its far greater frequency and its purely physiological import, is much the more important. Regarding this, two theories, those of Donders and Coccius, have held a divided sway. Coccius considered that with each systole of the heart an increased amount of blood was forced into the closed capsule of the eye, and that the increased pressure thus produced would make its effect manifest on those parts which could most easily yield. As the veins satisfied this condition, so with each dilatation of the arteries and increase of pressure within the eye the veins must be compressed, and the flow of blood within them be quickened. Donders also assumed a rhythmical increase of pressure with each dilatation of the arteries entering the eye, and that this higher pressure, before it could be propagated through the capillaries to the veins, was in part transmitted to the vitreous and caused compression of the veins. But this compression would not affect all the veins alike; as the blood pressure is least in the main trunks, they must be compressed first, and thus the outflow of blood impeded. Room for the large amount of blood thus periodically present in the retinal vessels is made, according to Donders, by a decrease of blood in the vessels of the choroid, the anatomical arrangement of which he supposes to allow more easy exit of blood under strong pressure.

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[1] Graefe's Archiv, xxii. 1.

It is objected to Coccius that increase of intra-ocular pressure in fact produces a slackening, not a quickening, of the circulation, and, moreover, that sometimes besides the narrowing of the veins an evident damming of the current is present. A weakness of Donders's position is that it involves the hypothesis of a peculiarity in the choroidal circulation, nor is it plain why, if the choroid so readily acts as a regulator of the retinal circulation, the periodical checking of the current in the retinal veins is not avoided. Against both theories is the fact that the venous pulse is always confined within the limit of the papilla, generally within lesser limit, as at the edge of the central excavation. When the sharply-defined boundary of venous compression at these limits is observed, it is impossible to consider the phenomenon as only the expression of a general law according to which the blood pressure in the veins diminishes centripetally.

Jacobi holds that the venous pulse, so called, exists only because of the special anatomical structure of the optic papilla. That there is a rhythmical increase of intra-ocular pressure is taken for granted, and is sufficiently proven by the mere existence of the pulse, without other argument. Such pressure must cause a yielding (bulging) of the weakest part of the ocular capsule, and both an examination of the structure of the papilla and the evidence afforded by the changes occurring in glaucoma show that this is the weakest part. Now as a result of the yielding of the papilla the veins on its surface are stretched, and at the same time bent on themselves, and the bending reaches a high degree where, as is frequently the case, they curve sharply over the edges of a central excavation. It is in these latter instances also that the venous pulse is generally most marked. The effect of the bending of the veins is to diminish their calibre and to admit the passage of a less amount of blood, and hence the part beyond the bend collapses, the degree of collapse depending on the sharpness of the bend and the relative height of intra-ocular pressure. Soon after the dilatation of the arteries the pressure in the vessels is equalized and the peripheral portion of the veins refills, while the elasticity of the papilla brings it back to its former level. The infrequency of a visible damming up of the blood behind the collapsed portion of the vein is accounted for by there never being a complete interruption of the current, by the short duration of the collapse, and by the minute quantity of blood held back.

What is ordinarily called the venous pulse of the retina is in reality, therefore, no true venous pulse, but an appearance *sui generis*. There are, however, two reported cases in which an actual venous pulse was observed. The doubtful character of one case renders a judgment as to the exact nature of the pulse uncertain. The other was one of aortic insufficiency, and there was probably a propagation of the wave impulse *a tergo*, as has been observed with this disease in veins of other parts of the body.

Arterial pulsation in the retina has latterly been divided into two distinct forms: the actual arterial pulse, found with insufficiency of the aortic valves, and in Graves's disease, also an intermittent influx of blood, seen in glaucoma, and exceptionally in other forms of disease, or on the production of artificial pressure on the eye. This distinction Jacobi believes cannot be strictly carried out, one form passing gradually over into the other, and he endeavors to show this by the results of experiment and observation. That there should be visible pulsation in the retinal arteries with aortic insufficiency or Graves's disease is not to be regarded as specially remarkable, since in the former throughout the whole body, in the latter in the head and neck, the pulse is transmitted with greater force to the smallest arteries. But the so-called intermittent influx also is a true arterial pulse. Here, from the impediment produced by increased intra-ocular pressure (or, exceptionally, from other cause), the central artery within the eye is narrowed, while without the eye it is excited to stronger pulsations, which extend a short distance into the retina.

Finally, the intermittent influx may be the visible expression in the eye of a general anæmia accompanied by an abnormally great rhythmical variation of tension in the arteries, as in aortic insufficiency.

(To be concluded.)

DISEASES OF THE URINARY ORGANS.[1]

The title of this book may perhaps prove misleading, for, while it purports to treat of "diseases of the urinary organs," the subject-matter is really limited to "diseases, injuries, and malformations of the urinary bladder, the prostate gland, and the urethra," affections of the kidneys and ureters not being included. Looking further into the work, we find that urethritis is not among the diseases described. Chronic prostatitis, a well-defined and often intractable disease, is also omitted, unless, indeed, it may be recognized among the various and varying symptoms attributed to "prostatorrhœa," a disease first described and named by Professor Gross. In compensation for any such deficiencies, however, we have a chapter on the Lesions of the Gallinaginous Crest; moreover, the book contains a description of vesico-vaginal fistula, a subject of considerable importance, which is usually considered in treatises devoted to diseases of the female generative organs. As the volume comprises, with its index, five hundred and seventy-four pages, it would perhaps be unreasonable to call for more.

The preceding edition of Professor Gross's work on the urinary organs appeared in 1855, and, in consequence of the time that has elapsed since that date, and on account of the fact that the work has been revised and in great part re-written by Dr. S. W. Gross, the present volume may almost be called a new book. The impression which it produces is rather that of a careful compilation than of an authoritative exposition of ripe personal experience, such as we should have been glad to receive from Prof. S. D. Gross. Perhaps this feature, or lack of feature, is a result of the collaboration acknowledged in the preface; the circumstance of having delivered several courses of lectures upon the affections of the urinary organs might facilitate the preparation of a useful treatise, such as this will undoubtedly prove; it would, however, hardly qualify a younger surgeon to pronounce judicially, in place of Prof. S. D. Gross, upon the difficult and mooted questions of urinary surgery.

Among the doubtful points of practice in relation to which we should expect to find definite advice, based upon the results of personal experience, is the treatment of hypertrophy of the prostate, especially in its advanced stages. The internal use of ergot is recommended, on theoretical grounds, by reason of its utility in the treatment of uterine myomata, and as having proved successful in the practice of Dr. W. L. Atlee. We do not learn, however, what results Professor Gross has himself obtained by this means. "The only local treatment deserving of mention," continues the author, "is that by injecting the gland, through the anterior wall of the rectum, with solutions of iodine, to which attention has recently been directed by Professor Heine, of Innsbruck. . . . . This plan deserves a more extended trial, but the risks of suppuration, which is so frequent a result of injections into the parenchyma of other organs, must be borne in mind." There is nothing in the text to show that Professor Gross has attempted in his practice to verify the claims put forward in favor of this procedure. Professor Dittel, of Vienna, is far from pleased with its results, suppuration having occurred in several cases, and one patient having died from the effects of the operation.

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[1] *The Diseases of the Urinary Organs.* By Professor Samuel D. Gross. Third Edition, revised and re-written, by Dr. S. W. Gross. Philadelphia: Henry C. Lea. 1876.

In the last stages of marked prostatic hypertrophy, with chronic cystitis and diminished capacity of the bladder, what are the available resources of treatment, and what procedure does Professor Gross recommend? In one place (page 54) perineal cystotomy is said to be peculiarly applicable to such cases; elsewhere (page 411) we read that "the permanent retention of a tube in the bladder above the pubes may be advisable to avert impending death." Which of these operations has yielded the better results in Professor Gross's experience does not appear. "When the obstacle to the passage of the urine depends upon enlargement of the middle lobe," says the author, "and the patient is in fair general health, I can see no objection to excising it." The operations of Guthrie, Mercier, and others for "bar at the neck of the bladder," are also sanctioned by Professor Gross, without discussion of their merits and without appeal to the results of experience. We know, however, that Sir H. Thompson speaks of these procedures in terms of the most unqualified disapproval, and that they are not recommended by Van Buren and Keyes.

Prostatorrhœa, first described by Professor Gross in 1860, is defined by him as "a discharge from the prostate gland, generally of a thin, mucous character, dependent upon subacute or chronic inflammation of the glandular elements of that organ, and liable to be confounded with other lesions, as gleet, seminal losses, and cystorrhœa, from which, however, it is usually easily distinguished." This new morbid entity would appear to be made up in great part by the association under one heading of several affections which are commonly described under distinct names by other authors. Thus, chronic prostatitis, both parenchymatous and follicular, cystitis of the neck of the bladder, and cystalgia, diseases attended by puriform or purulent discharges, frequency and difficulty of micturition, uneasiness and pain, as their chief symptoms, appear to be merged together under one common designation and symptomatology. We should be inclined to reserve the name proposed by Professor Gross for those cases in which the discharge "seems to be the result solely of a heightened functional activity, probably connected with if not directly dependent upon, disorder of the seminal vesicles, the urethra, neck of the bladder, or recto-anal structures; in other words, upon reflected irritation." Prostatorrhœa, so considered, is charaterized by a perfectly clear, viscid discharge, of intermittent occurrence. An important element in these cases is sexual hypochondriasis, as described by Sir J. Paget, which generally constitutes nine tenths of the diseased condition, the principal morbific agency concerned in the production of the symptoms being disordered sexual hygiene.

The chapters upon stone in the bladder are among the best in the volume, being clear and practical, and not overcharged, as is often the case, with details of which the interest is purely historical. We cannot, however, agree with the author in his estimate of the various operations for stone in the female bladder. The preference is given to lithotrity and to rapid dilatation of the urethra; the limits of safe dilatation are, however, not stated, and the reader is left to believe that calculi measuring, with the forceps, two inches in diameter may be successfully removed in this way. Simon's careful researches have shown that a diameter of one inch is a limit which it is rarely safe to transgress, as permanent incontinence of urine may ensue. Of vaginal lithotomy Professor Gross says, "The operation may be required for very large calculi, in which dilatation is inapplicable, or in which the condition of the bladder forbids lithotrity, but it should not be practiced when it is possible to avoid it." We believe that the existing evidence and balance of opinion are rather in favor of this operation, compared with all other available procedures, and that it does not deserve to be looked upon as a mere *pis aller*.[1]

Coming now to the subject of stricture we find that Professor Gross indorses, to a certain extent, the views of Dr. F. N. Otis. Thus we read that "the object of any mode of treatment being the restoration of the normal calibre of the urethra, it naturally follows that no measure will be successful unless the size of the canal be previously ascertained in each individual case, and the contracted part be brought up to that standard. Hence a careful exploration should always be made with the urethrometer devised by Dr. Otis." In accordance with this view the practitioner must be prepared to stretch, split, or cut the urethra up to a calibre averaging 32.9, and in certain cases exceeding 40; for Dr. Otis's valuable researches, corroborated by the investigations of Dr. S. W. Gross and others, have demonstrated that such are the dimensions of the healthy urethra. But it still remains to be proven that the object of treatment should be "the restoration of the normal calibre of the urethra." If it can be shown to be true that by the complete division and dilatation of all strictures, however wide, up to the reëstablishment of the full normal calibre of the urethra as above estimated, a *radical and permanent cure* can be effected, then we shall admit that results now unattainable are placed within the reach of the surgeon, and we shall gratefully recognize that Dr. Otis has effected a considerable improvement of the means of treatment applicable to stricture. But demonstration, and not merely assertion, is requisite before it can be considered as necessary or even expedient to adopt such severe measures as those advocated by Dr. Otis and sanctioned by Professor Gross. Until experience shall have conclusively shown that the results of practice based upon these extreme views are superior to those obtainable by the less severe modes of treatment now in use, we shall incline to the belief that the restoration of a calibre considerably less than the full normal calibre suffices to afford all the benefit which can be derived from surgical measures.

"The meatus being the narrowest portion," says Professor Gross, "it is not the true index of the calibre of the canal beyond that point, and should not be used as a gauge for the passage of instruments, although a catheter which enters the orifice should pass readily into the bladder unless there be an obstruction." It is precisely because the meatus is the narrowest portion of the urethra that it has been proposed as an index or gauge for the calibre of instruments, since, as Professor Gross says, any instrument which can be passed through it should pass readily through the rest of the urethra. In this sense, and to this extent, the meatus is a true index of the calibre of the urethra beyond.

As regards the treatment of stricture, Professor Gross first speaks of dilatation as follows: "Notwithstanding the various attempts that have been made to supersede it, and the reproaches that have been cast upon it by modern writers, it still maintains its place in the estimation of enlightened practitioners, and there can be no doubt that it is frequently applicable to simple, soft, and recent strictures, while it is often demanded to prepare the way for other measures." Further on, however, he says that "the treatment by dilatation is, in the end, very unsatisfactory, relapses being the rule and complete cures the exception." We cannot say that we have a clear idea of the value which this mode of treatment possesses in the eyes of Professor Gross.

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[1] See a paper on Vaginal Lithotomy, by Dr. J. C. Warren, Boston Medical and Surgical Journal, July 20, 1876.

Divulsion is described, the instrument recommended being Richardson's modification of Perrêve's dilator. Professor Gross says, however, that instead of employing the ordinary form of dilator he has for several years divulsed strictures with heavy, conical, nickel-plated steel bougies. A series of these is described, of which the largest does not exceed number 30; it is evident that the "restoration of the normal calibre" of the urethra by means of this instrument must be quite out of the question, and the same may be said of almost every divulsing instrument that we have ever yet seen. "Six of these instruments usually answer every purpose," says Professor Gross, "and while they act equally as effectual [*sic*] as the divulsor, by being rapidly inserted one after another, they are, according to my experience, far superior to it, especially when the stricture is seated at the sub-pubic curvature, where, unless very great care is exercised, there is always danger in unskilled hands of the divulsor making a false passage." In the hands of one so skillful as Professor Gross we can imagine that divulsion so performed might be safe and perhaps effectual, but surely, if unskilled hands are to be provided with instruments, those of Voillemier or Maisonneuve, which Professor Gross does not mention, would be less dangerous than the conical steel bougie used as a divulsor.

"The mortality after operations on the urethra is generally due to chronic Bright's disease or pyelitis. Hence before entering upon any plan of treatment the prudent surgeon will test the urine for pus, albumen, and tube-casts." We must demur to this statement, inasmuch as it involves a mistaken view both of the name and of the symptoms of the kidney disease which is most to be feared in urinary surgery. The form of disease in question, namely, interstitial nephritis, acute and chronic, is not Bright's disease, and is not characterized by the presence of albumen or tube-casts in the urine. When its existence is suspected, the diagnosis, which may be very difficult or even impossible, must rest upon other signs than those of Bright's disease.

The book is well printed and illustrated, and would be a most useful addition to a medical library had it not been so recently forestalled by the admirable work on Genito-Urinary Surgery of Van Buren and Keyes, which, in our judgment, has rendered unnecessary for the present any other comprehensive treatise covering the same ground.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

F. B. GREENOUGH, M. D., SECRETARY.

JUNE 26, 1876. *Imperforate Anus.* — DR. AYER presented a specimen of imperforate anus and read the following paper: —

Within a few years the subject of congenital imperforate anus was presented to this society by Dr. Gay, who reported twenty-five cases, if I remember correctly, observed or collected by him. The whole evening was spent in the discussion of this singular arrest of development; its pathology, treatment, and prognosis were fully dwelt upon.

On that occasion I referred to two cases, which I had previously reported to this society, occurring in my own practice, both born of the same mother, with an interval of two years between the births. This was in 1858.

CASE I. In the first case I called in an eminent surgeon, who advised non-interference. The point of distended bowel was not distinct, and in an operation the incision must necessarily have been deep. The infant, a boy, was healthy in other respects, and nursed for the first two or three days. The urine passed freely. After the second day vomiting and abdominal distention appeared, and much suffering followed, which was allayed by paregoric and the inhalation of ether. After the third day the child neither nursed nor was fed, and died from exhaustion on the eighth day.

CASE II. About two years after, the same mother gave birth to a second child with the same affliction, who passed through the same course as the first, and died without operation for its relief, I think on the fifth day.

CASE III. Three years since a third case occurred, in a male child, presenting the same symptoms as detailed in the other cases. The anus had a slight thimble-like depression, and by pressure the finger felt the distended intestine, but at some depth. The abdominal fullness was great, with much pain.

On the third day I passed up a medium-sized trocar, puncturing the intestine at the depth of an inch or more. Through a canula a free discharge of meconium was effected. Subsequently the opening was enlarged by the knife, and a free discharge was established, greatly to the relief of the little sufferer. A rubber tube was afterwards employed. This worked well for one day, when pain and swelling returned, and death from peritonitis occurred on the fifth day.

CASE IV. Last winter another boy was born with the same difficulty. This was the mother's fourth confinement. The first child had imperforate anus, and physicians in the country where it was born, operated on it, but the little one after great suffering died on the eighth day. The last child was a male, and healthy, with the exception mentioned. The bowel was felt indistinctly at the bottom of the shallow depression which took the place of the anus. Puncture appeared impracticable, and no operation was performed. The baby died on the fourth day.

CASE V. My fifth and last case was a recent birth of a male child, the mother being a primipara. As no meconium passed, the anus was examined, was found to present a cicatricial appearance with no depression, and was imperforate. The urinary stains on the diaper were dirty, and spots of meconium were noticed also about the meatus and on the penis. The scrotum presented a peculiar look; the raphé was contracted, binding the bag down firmly on the median line, so that the testes hung down like saddle-bags. A small rubber bougie, and afterwards a catheter, were passed without difficulty; on the withdrawal of both they were found stained by meconium, but there was no clear urine. The diapers continued to be soiled by dirty urine. A larger catheter was passed the next day and drew a small quantity of pure urine.

After the second day the baby refused to nurse, vomited freely, and gradually sank away. The abdominal distention increased, and also the pains, which were relieved as heretofore by paregoric and ether.

On the fifth day an exploratory opening was made by the passage of a small trocar to the depth of an inch and a quarter; a little blood, but no meconium, followed. Death took place on the same day.

A large proportion of these cases has fallen to my lot; in a total of over two thousand cases of midwifery I have seen five cases of imperforate anus, or one in four hundred.

Collins observed but one case of imperforate anus out of 16,654 children born in the Dublin Lying-in Hospital during his mastership, and Zöhrer, of Vienna, found but two cases out of 50,000 new-born children.

West gives the following varieties of imperforate anus: (1.) Where a false membrane is in the canal. (2.) Where the natural aperture is absent and the rectum opens into the urethra, bladder, or vagina. (3.) Where a part or the whole of the rectum is absent, the canal terminating in a cul-de-sac.

In all three varieties the anus may be represented either by a trivial groove in the perinæum, or by a thimble-shaped depression of variable depth. Cases like the one shown to-night are the least favorable for operation. Of nine such cases which were operated on, only one proved successful. One case is on record where no operation was performed, the patient growing up to womanhood, and passing fæces through the urethra without great discomfort.

With the exception of those suffering from the simplest form of the malformation (when a thin membrane only separates the anus from the rectum), the little sufferers have rarely survived more than one or two weeks. Perhaps this is fortunate, for according to Guersant, if those patients who have grown up after a successful operation are consulted, they generally express regret that they have survived.

Death is usually gradual, from the aggravation of previous symptoms, but occasionally it occurs suddenly, in consequence of rupture of the over-distended intestine.

Dr. Cutler, who with Dr. J. B. Ayer had made the autopsy, showed the specimen, and reported that the child, otherwise well-formed, presented on examination the following internal appearances: On opening the abdomen the colon was found moderately distended with gas and meconium; the sigmoid flexure lay in the right iliac region, and was distended to the size of a silver dollar. The relations of the rectum and bladder were normal. An opening was made into the bladder, and the pubes and penis were carefully divided from above down to the urethra; on making gentle pressure on the sigmoid flexure, meconium was seen to issue from the floor of the urethra, just in front of the *veru montanum*, and a little to the right of the median line in the membranous portion. The opening was circular, somewhat valvular, and readily admitted a probe of ordinary size.

The sinus of connection was slender, and perhaps a quarter of an inch long. This end of the rectum approached within one inch and a quarter of the perinæum.

Dr. Jackson said that this case was an interesting one to him, as it confirmed him in an observation of twelve to fifteen cases, that in every case of imperforate anus occurring in the male subject (otherwise perfectly formed), the gut opens into the membranous portion of the urethra.

July 24, 1876. *Imperforate Anus.* — **Dr. Beach** showed the dissection of a specimen of this deformity, which he had made in a case occurring in Dr. Tuck's practice. There was nothing unusual about the labor, except that after the head was born it required considerable force to deliver the body. A pouch which would admit the end of a finger was seen in the place of the anus, but it was a perfect cul-de-sac. A trocar was used twice without success, but the third time meconium was found and evacuated, high up and well to the right. The child lived twenty-four hours.

Dr. Beach made the following report of the autopsy: —

The bladder, vagina, uterus and appendages, kidneys, liver, and spleen were normal. There was no meconium in the abdominal cavity. The point where the intestine had been punctured was the centre from which recent inflammatory action had radiated throughout the abdominal cavity. The intestines were glued together by recent and old adhesions. No communication existed between the vagina and rectum. The latter was represented by a pouch, which would allow the forefinger to enter for an inch and a half, when it met an obstruction. This obstruction was relieved by carefully dissecting the intestines from their adhesions, so that a probe, entering the anus, could be made to traverse the rectal pouch above mentioned, and to enter the diminutive descending colon. The mucous membrane was continuous from the anus into the colon. Beginning at the point where the intestine was obstructed, it could be traced as the descending colon upward along the left side of the abdominal cavity to the spleen, when it made a turn to the right and became attached along the greater curvature of the stomach, forming the transverse colon. When it reached the right lobe of the liver it turned downward, became the ascending colon, and terminated in the iliac region at a small cæcum. Connected with the latter was a minute appendix cæci. The length of the large intestine was sixteen inches, and its diameter a quarter of an inch. The appendix measured one and a quarter inches in length, and one sixteenth of an inch in diameter. The colon contained a little mucus, but no meconium. The small intestine, of nearly double the calibre of the colon, commenced at the cæcum, and forming a mass of convolutions, in bulk the size of a hen's egg, extended upward to the inferior surface of the liver, where it terminated in a blind extremity, and was not connected with the stomach. The stomach opened by its pyloric extremity into a section of intestine a yard and a half long, varying from half an inch to an inch and a half in diameter, and also terminated at the iliac fossa in a blind extremity, not connected with the colon or small intestine described. This portion of the intestinal canal contained all the meconium. It was coiled up irregularly, and was the first object noticed upon opening the abdominal cavity. The blind extremity just described was the portion of the intestine from which meconium was withdrawn at the time the third puncture was made.

Popliteal Aneurism. — Dr. Warren reported the case, which came under his care on August 25th. W. Y. was wounded fourteen years ago at the battle of Fredericksburg by a musket ball, which entered the calf of the left leg, a little to the inside, and came out opposite the inner aspect of the knee-joint. There was no unusual amount of hæmorrhage at the time, and the wound healed well, but on recovery a small bunch remained in the popliteal space, growing larger at times, and again almost wholly disappearing. One year ago it grew larger than before, and began to pulsate. It soon filled the hollow of the knee, and during the last two months has spread rapidly on the inside of the thigh. The skin over the popliteal space is made tense by an ill-defined pulsating mass which spreads along the course of the femoral artery to within eleven inches of the anterior superior spinous process of the ilium. The left knee is nineteen inches in circumference, while the right knee measures but thirteen and one fourth inches. The patient suffers severely from pain in the calf and foot, which is relieved only by frequent subcutaneous injections of morphine. A pound cannon-ball applied to the femoral diminishes but does not arrest pulsation in the vessel. Heavy pressure with the hand arrests pulsation entirely.

August 30th. The patient was etherized, and pulsation in the femoral was arrested by two hospital tourniquets applied, near the apex of Scarpa's triangle, alternately every fifteen minutes for twelve hours. During this period the patient was kept profoundly etherized, about a pound and a half of ether having been consumed for the purpose, with the exception of a few minutes during the afternoon when some beef-tea and brandy were administered. The pulse during this time gradually rose from the normal rate to about 120, but subsided somewhat after nourishment had been taken. On removing the tourniquets pulsation had ceased, although on auscultation a slight murmur was heard beneath the tumor. At midnight there was no return of the pulsation, but the next morning a slight pulsation was observed, which gradually increased to its previous force.

September 10th. Pressure was applied as before by tourniquet without ether, the patient preferring to bear the pain, and was continued for twenty hours, but had no effect upon the pulsations, which reappeared after it was removed.

September 19th. The patient was etherized, the sac laid open, the clots, which were numerous, everted, and the artery tied at each end. It was found that the sac extended to the point of bifurcation of the popliteal artery. Two ligatures were therefore necessary at this point.

The patient rallied well from the operation, and for the first week the wound healed rapidly. An attack of erysipelas arrested the healing process and reduced the patient greatly. On October 3d hæmorrhage occurred from the upper end of the wound during the afternoon, and although digital pressure was immediately resorted to by an attendant, and in a few minutes the tourniquet was applied, the patient sank and died the same evening.

Dr. Fitz showed the specimen, which consisted of the aorta from its origin, the left femoral, and a portion of the aneurism in continuity. The fatal hæmorrhage had resulted from the sloughing of the walls of the artery at the upper end of the aneurismal sac, where the ligature had been applied. There was no alteration of the inner surface of the femoral artery, but the fibrous tissue was indurated around it, corresponding with the region where compression had been applied. The entire inner coat of the thoracic aorta was thickened, wrinkled, elevated in patches, of an opaque grayish-white color, and the canal was dilated, especially that of the arch. Just above the cœliac axis these alterations ceased abruptly, the interior of the abdominal aorta being smooth and yellow, its walls evidently in a normal condition. The specimen was particularly interesting from the absence of changes at the point of compression and the presence of chronic inflammatory conditions of the thoracic aorta, such as are associated with the formation of aneurisms, in a young man in whom a popliteal aneurism had arisen, directly or indirectly from a traumatic cause.

AN ABORTIONIST SENTENCED.

We are glad to learn that David R. Brown, the abortionist, has at last met some small part of his deserts. He was convicted in March, 1875, on two counts for abortion, and filed exceptions, which the supreme court overruled. On October 25th he was brought up for sentence. His counsel, according to the custom which makes it the lawyer's duty to take the part of the convicted criminal against the public good, asked for a light sentence, giving as his reasons that Brown had already suffered two years' imprisonment since his arrest, that he is seventy years old, and, most wonderful of all, that the offense is not an uncommon one. We should think this a reason for severity, as truly the crime is far from a rare one, and will, we imagine, hardly become rarer through leniency. He also, queerly enough, pleaded that Brown had already suffered the extreme penalty of the law on conviction for a similar crime several years ago, which to the non-legal mind will hardly appear a mitigating circumstance.

The judge sentenced the prisoner to three years in the state prison on each count. The loose way in which pardons are granted makes us fear that this may not mean as much as we could desire. Abortionists are seldom without money and interest, and we fear that we shall read some fine morning that "Dr." Brown is at large again, and not improbably appointed a coroner.

MEDICAL NOTES.

— Dr. Thomas Dwight has resigned the professorship of anatomy at the Medical School of Maine after five years' service, and Dr. Stephen H. Weeks, of Portland, has been appointed lecturer in his place.

— In our last number we published an advertisement of the Warren Triennial Prize. This is one of the largest prizes in the country, and should draw out good original work. We would remind our readers that essays must be sent to the resident physician of the Massachusetts General Hospital on or before February 1st.

— Professor Lücke, of Strasburg, has been invited to the chair left vacant by the death of Dr. Simon, of Heidelberg. Several of the Alsace journals have published his acceptance, which has been emphatically denied by the Strasburg papers. A telegram of the 8th of October from Stuttgardt semi-officially announces Professor Lücke's acceptance, with the comment that his decision was influenced by the prospect of large new clinical buildings, ground for which will be broken early in November.

— *The Medical Times and Gazette* states that an interesting case of hydrophobia from the bite of a cat was recently the subject of a coroner's inquiry in Manchester. The following notes are abridged from an account kindly furnished by Mr. R. B. Smart, the surgeon in attendance: On July 22d a salesman named McNaught, aged thirty-three, was bitten in several places on the forefinger of his right hand by a strange cat which had taken refuge under the slopstone of his kitchen from a troop of children. The wounds were cauterized, and all of them healed except one at the root of the nail, in the neighborhood of which a small abscess eventually formed. On September 6th, a few days after this abscess was opened, Mr. Smart was summoned to the man's house. He found him complaining of some uneasiness in the finger and arm, and alarmed and agitated in his manner. For several nights he had slept but little, walking restlessly about his room, and even occasionally up and down the street; and his whole demeanor had been noticed by the neighbors to be altered and strange. His pulse was 80. On being requested, he swallowed some liquid food, but he did so reluctantly and in sips. He passed the night on the sofa, and, under the influence of a full dose of chloral, slept for several hours. In the morning he took some bread and milk, complaining that he found it difficult to swallow. He talked in an excited manner; his pulse was about 90, his temperature 98.5°. A few hours later he became incoherent and still more excited. He refused to take food when people were looking on, but would now and then go out into the lobby and swallow a little liquid there. Occasionally he struck himself over the upper part of the chest, although he declared himself free from pain. At bedtime morphia was administered subcutaneously, and the night passed quietly. On the following morning, September 8th, he altogether refused to swallow, and became greatly irritated when urged to try. In the afternoon he suddenly became very violent, and attempted to get out of the window. He talked incessantly, and thought those around him were conspiring to take his life. He had a savage look, and made threatening gestures as if to strike. Later in the day he is said to have spat upon his attendants, and the surgeon himself saw him apparently preparing to do so. He ordered all vessels containing food to be taken out of the room. During the night his violence increased; he foamed at the mouth, and repeatedly put his hands up to his throat. Early in the morning of September 9th he died, without any symptom of convulsion, and recognizing the bystanders to the last. At the post-mortem examination, conducted by Mr. Thomas Jones, Medical and Surgical Registrar at the Royal Infirmary, there was found marked congestion of the veins on the surface of the brain, as well as of the vessels in the brain-substance. There was no softening or exudation. Nothing abnormal could be detected in the condition of the throat. There were some old pleuritic and pericarditic adhesions, and the aortic valves were thickened. All the other organs were healthy.

— We quote from the *British Medical Journal* the following items in connection with the Bravo inquiry. "The opening of the medical season is marked by a choice piece of gossip for *quid-nuncs* in the reference by Sir William Gull to the Censors of the College of Physicians of London of the questions of professional conduct raised by his statements in evidence at the Bravo inquest, and by the public comments on them in the medical press, as well as the privately expressed opinions which have been current in the profession. It is well known that Sir William Gull does not admit the justice of the censures which have been inflicted upon him unofficially; and he now seeks, by an appeal to the college, not only to set himself right, but to shift the burden of blame on to Dr. George Johnson. Sir William complained that the counsel who reëxamined Dr. Johnson put a false interpretation on his (Sir William Gull's) evidence; and that Dr. Johnson, by not correcting, confirmed this misinterpretation. He has, therefore, taken the offensive at the college; and it is now Sir William who appears as the complainant. The Board of Censors of the college, which includes the president (Dr. Risdon Bennett), Dr. Peacock, Dr. Radcliffe, Dr. Wilkes, and Dr. Bristowe, have had the statement and rejoinder of the two physicians before them in writing."

— The following extract from a recent number of *The Lancet* shows the difficulty experienced in England in the attempt to restrict the sale of poisons: "It is beyond question that the law regulating the sale of poisons requires revision, and needs, as a whole, to be placed on a better footing. At present it fails to deal with the facts of retail trade in drugs which are capable, in sufficient doses, of destroying life. For example, in a late number of the *Western Morning News* was a letter signed by a local chemist to the effect that he frequently supplies customers with 'a pint or more of laudanum at a time.' Laudanum is, by the act, required to be labeled, but not *registered*. In many districts the practice of taking laudanum is common, and by long use or abuse of the drug those who employ it have come to require large quantities. It might act as some check on this injurious custom if the names and addresses of persons habitually using the drug were registered, together with the quantity purchased. As a matter of fact, we believe most of these laudanum-drinkers now carry on their practice with great if not perfect secrecy. The sale of all poisonous drugs should be recorded. The trouble would be small, the service rendered considerable. It is alleged that the act is commonly evaded. Security might be taken against that evil by establishing a system of supervision, tracing the quantities of poisonous drugs in stock, after the manner pursued for the protection of the revenue and excise. No difficulty thrown in the way of a reckless use of 'poisons' can be considered a hardship."

— *The British Medical Journal* says with regard to the supply of subjects for dissection, "The effort now made by the authorities of the metropolitan medical schools to have a supply of bodies for dissection, upon which the students may commence their labors at the beginning of the session, is highly commendable. The result contrasts most favorably with the state of affairs which obtained only ten or twelve years since. Then it was unfortunately customary for students to have to wait many weeks after the commencement of the session before they could obtain 'parts.' This year, in London, nearly eighty subjects were ready for dissection on October 1st at the various schools, Guy's having fourteen, St. Bartholomew's and St. Thomas's eleven each. The difficulty in obtaining bodies is increased by the fact that the session opens just at the termination of the hot period of the year. Consequently we find that all the bodies have been preserved, though the exact method of preservation is different at almost every school. All the plans adopted seem to answer fairly well, and furnish students with material for work, so that they need not waste the precious first weeks of their too short session. In all cases the vessels are injected, but the subsequent treatment of the 'subject' varies considerably. At St. George's Hospital, for instance, the bodies are kept in pickle in large tanks until required for use. The only real objection to this plan appears to be that the muscles of subjects kept so long in the liquid lose their color. In other cases, as at St. Bartholomew's, the bodies, when once fully injected, are simply exposed to the air. In this case the hands, feet, and other regions are apt to become very dry. Perhaps the plan adopted at the Middlesex Hospital is about the best. In this case the body is injected with some preservative fluid, is then placed in a shell, surrounded with a thick layer of sawdust made damp by a strong solution of carbolic acid, fastened down, and kept in this state until required for use. The subjects then come to the table moist, of good color, and free from smell. Certainly any plan which tends to mitigate the unpleasantness of the dissecting-room is, especially to fresh men, a great boon."

— *The Lancet* reports the following case of manslaughter by rupture of the spleen. A curious medico-legal point was involved in a recent trial for manslaughter in Ceylon. A coolie, in consequence of alleged impertinence, was treated with some violence by the superintendent of a plantation, and died almost immediately from, as the post-mortem examination showed, rupture of the spleen. The man had had fever lately. The spleen was large and soft; it had ruptured, and the peritoneal cavity was full of blood. It was urged for the defense that the spleens of coolies sometimes rupture spontaneously on severe muscular exertion, that the exertion of running away, as the coolie did, might have ruptured his spleen, and that death therefore would not be the direct result of the action of the accused. Dr. Norman Chevers was quoted in support of the theory that the spleen might rupture under such circumstances, but it was discountenanced by the medical witnesses, and we think rightly. An accident so rare, and even doubtful, as such rupture of the spleen must be, cannot be allowed weight in the presence of evidence of direct violence. The chief justice ruled that, even if the diseased spleen would have caused the man's death sooner or later, the rupture was so distinctly the result of the violence that the prisoner could hardly have been acquitted of the charge of at least accelerating the death of deceased, and thus of manslaughter. The jury found the prisoner guilty, and he was sentenced to eighteen months' imprisonment with hard labor.

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MEDICAL CONGRESSES.

Messrs. Editors, — I confess I have not been able to acquire a very clear comprehension of the utility of medical congresses, institutions originating, I believe, in Germany, and imported into Great Britain, France, and America with an undue enthusiasm, which, as usual, has sensibly abated. Do not the academies and other existing scientific societies suffice for the utterance of all new ideas, the publicity of all scientific labors of real value? These great nomadic improvised reunions might have had a certain importance and value in earlier times, when international relations were less intimate, and when the costliness of books and the want of scientific journals made the intercourse of savants very difficult. During the Middle Ages, as in antiquity, men who devoted themselves to the advancement of knowledge had to travel personally to seek for it wherever they might hope to find it. They went to foreign lands, often crossing the seas to distant countries, passing from city to city, learning everything that was new, and finding their acquisitions augmenting in proportion to the length and extent of their pilgrimages. In the last three centuries savants have traveled less. They have supplemented peregrinations by private correspondence, a custom to which we owe much precious biographical, historical, and scientific information. In our day these systematic correspondences have well-nigh ceased. Thanks to the multiplicity of special journals, to the publication of the proceedings or transactions of learned bodies, and to the abundance and reasonable price of books, we are not obliged to travel far to learn what the post will deliver daily at our domiciles. In this respect the same phenomena are observed in the sciences as in material industries and commerce. The multiplication of permanent markets, and the facilities for intercommunication have gradually suppressed peddling, or colportage, and, in a great measure, fairs, which are but temporary markets, whither people go to procure periodically an outfit. Nowadays products seek the consumer wherever he is to be found.

Scientific congresses are only, if I may be permitted the comparison, fairs for intellectual products. Their organization, in this view, is hardly appropriate to our civilization, but recalls ruder epochs. Hence we now find them disappointing. They are reunions for parade, where there is much noise and bustle, and multitudes collect, and having unbosomed themselves leave as little trace in science of their passage as at the hotels at which they have lodged. The travelers who assemble at such conventions are not always those we wish most to see. The works they display have nothing to distinguish them from those made known elsewhere by the ordinary channels; and many, unless discharged through these communal word-spouts, would be in grave danger of remaining forever unpublished. What can possibly result, if we look at it seriously for a moment, from these fortuitous agglomerations of several hundred pundits more or less devoted to the various branches of medicine, surgery, or the biological sciences, for the most part unknown to each other, assembled for five or six days only, most of which are absorbed by the formalities of organization, by addresses of welcome and addresses of grateful appreciation, by the ceremonial of meetings, and by debates on questions of order? What possible good can come of the reading of a score of papers that have not been subjected to any critical analysis, that are in no way correlated, that are sprung on the assembly and forgotten as soon as heard, unless possibly followed by some desultory discussion, improvised and vapid? It is true that at the close of these imposing reunions a volume of *transactions* is usually published, giving an analysis of the works presented and of the discussions, or printing them in full; but all that is read and said in these œcumenical councils hardly surpasses in quantity and assuredly does not equal in quality what is produced weekly or monthly in the learned societies of the great scientific centres. The results do not correspond to the huge preparations and vast paraphernalia of these solemn assemblages. I do not believe that these organizations, founded on no real want and destitute of obvious utility, will be enduring. They have this only merit, that they serve as means of pastime for amateurs in science, or even for professional savants, an agreeable rendezvous for a certain class of persons, who enjoy them as others do Saratoga or Newport.

Let me not go, however, further than equity demands. If the utility of these congresses be not demonstrated, it may be supposed that their comparative innocuity should be conceded; and it is something to be harmless. Yet it may be questioned whether their influence upon the tone of the profession is altogether good, when suitable precautions are not taken to prevent mountebanks and charlatans from availing themselves of the sessions of these august bodies to advertise their special modes of cure; or when, as at the late International Congress in Philadelphia, the reporters are allowed to submit a series of *conclusions* to a *viva voce* vote, requiring the congress to decide off-hand on some of the most difficult medical problems, of which many in the present state of our knowledge are insoluble, while the thoughtful members of the minority have no means of recording their protest and dissent. It may be argued, also, that it is well from time to time to take, as it were, an inventory and account of stock of our acquisitions, and that summaries of progress in the various branches of medical science and art, especially of such as have been made by native investigations, must be instructive and encouraging. But in this centennial year the journals have teemed with such retrospects, and their value much depends on the capacity and knowledge of the reviewer. What we are to think of the appreciation of a critic who laments that our great pathologist has done so little for the study to which his life has been devoted has recently been indicated by a brilliant pen in the pages of the JOURNAL. If these faults could be corrected, and these reunions regarded as mere scientific festivals, analogous to the annual meetings of our academies or other learned bodies, we might be altogether reconciled to them as promoting good feeling, and, if not science itself, at least a taste and predilection for scientific activity. And as everything that favors the propagation of enlightenment is good and worthy of encouragement, we could say, *Pax hominibus bonæ voluntatis!* ASTERISK.

COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING OCTOBER 21, 1876.

	Estimated Population, July 1, 1876.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1875.
New York	1,061,244	467	22.88	29.35
Philadelphia	825,594	293	18.45	22.24
Brooklyn .	506,233	181	18.59	24.92
Chicago . .	420,000	170	21.05	19.75
Boston . .	352,758	147	21.67	26.20
Providence	101,500	46	23.56	19.02
Worcester .	51,087	15	15.26	20.91
Lowell . .	51,639	18	18.13	20.55
Cambridge	49,670	12	12.56	23.31
Fall River	50,372	14	14.45	23.99
Lawrence .	36,240	7	10.04	25.96
Lynn . .	33,548	21	32.55	19.23
Springfield	32,000	3	4.81	20.93
Salem . .	26,344	13	25.61	22.92

Normal Death-Rate, 17 per 1000.

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OBITUARY.

In the death of Dr. A. G. Walters, of Pittsburgh, Penn., which occurred recently, the profession has lost a bold, independent, and successful surgeon. He was a native of Prussia, and a graduate of the University of Berlin. He came to this country in 1836, after having attended the lectures of Sir Astley Cooper. He early attained proficiency and success as a surgeon, and long held a leading position in the section of country where he lived. Dr. Walters published, in 1868, a remarkable paper on the Treatment of Compound Fractures by Free Incisions through the Fasciæ, which in its boldness and success resembled the earlier treatise on Compound and Complicated Fractures of the late Dr. William J. Walker, of this city. His mental vigor, independence, and peculiarities strongly recalled the characteristics of the distinguished surgeon last named. He recently published, in the *Archives of Clinical Surgery*, a remarkable and successful case of section of both femurs for deformity. Although at the ripe age of sixty-five, he was still in full and active practice when he died, after a brief illness incurred in the pursuit of his profession. DAVID W. CHEEVER.

Boston Society for Medical Observation. — A regular meeting of the society will be held on Monday evening, November 6th, at eight o'clock, at its rooms in Temple Place. Dr. Dwight will read a paper on Some Points of Hip Disease.

Books and Pamphlets Received. — Public Libraries in the United States of America. Special Report. Department of the Interior, Bureau of Education. Part I. Washington: Government Printing Office. 1876.

Series of American Clinical Lectures. Edited by E. C. Seguin, M. D. Volume II. No. 8. The Hypertrophied Prostate. By Robert F. Weir, M. D. New York: G. P. Putnam's Sons. 1876.

The Use and Value of Arsenic in the Treatment of Disease of the Skin. By L. Duncan Bulkley, M. D. New York: D. Appleton & Co. 1876.

A Century of American Medicine, 1776–1876. By Edward H. Clarke, M. D., Henry J Bigelow, M. D., Samuel D. Gross, M. D., T. Gaillard Thomas, M. D., J. S. Billings, M. D Philadelphia: Henry C. Lea. 1876. (For sale by A. Williams & Co.)

Transactions of the Texas State Medical Association. Eighth Annual Session. 1876.

Poems. By Mrs. Marcia Jane Eaton. Baltimore.

Married. — In this city, October 18th, by Rev. Mr. Twombly, of Charlestown, Dr. John A. Lamson, of Boston, to Miss Mary E., daughter of the late Joseph B. Whitcher, of Milton.

Coroners Appointed. — Horace E. Marion, M. D., of Brighton District.